

In the Claims:

Claims 1-6 have been deleted and the following claims have been added:

7. A process for producing electrical energy from thermal energy comprising the steps of:
supplying thermal energy to a heat pipe containing a working fluid and a capillary insert to evaporate the working fluid in a vaporizer section of the heat pipe;
directing the resulting vapor flow through the heat pipe to a condenser section of the heat pipe where the vapor is condensed and the resulting condensate returns to the vaporizer section via the capillary insert;
entraining liquid droplets of an electrostatic generator by means of the vapor flow from the vaporizer section of the heat pipe, the electrostatic generator having a liquid working medium to supply the liquid droplets, a solid working medium for charges separation, and a pick-up electrode within the condenser section of the heat pipe;
passing the vapor entrained with the liquid droplets by the solid working medium to cause separation of the electrostatic charges between the solid and liquid working media;
displacing of the resulting charged liquid droplets-working medium under the action of external forces caused by the kinetic energy of the molecules of the vapor flow, wherein the external forces perform work against the Coulomb forces; and
passing the liquid droplets-working medium past the pick-up electrode to pick up electric charges that are mechanically displaced by the external forces against the Coulomb forces to generate electrical energy from the thermal energy.
8. The process of claim 7, wherein said electrostatic generator also has a first external electrode connected to said solid working medium and a second external electrode connected to said pick-up electrode.
9. The process of claim 8, wherein the pick-up electrode is a grid.

10. The process of claim 9, wherein the solid working medium comprises a second grid through which the vapor entrained with liquid droplets passes.
11. The process of claim 7, wherein a diaphragm separates the vaporizer section from the condenser section to create an area of maximum flow velocity.
12. The process of claim 11, wherein the solid working medium is located within the heat pipe substantially at the position of the maximum flow velocity.
13. The process of claim 7, wherein the liquid droplets are recovered and fall by gravity into a loop return and are returned to be entrained by means of the vapor.
14. The process of claim 7, wherein the liquid droplets are recovered through a loop return containing a capillary insert and are returned to be retained by means of the vapor.
15. The process of claim 7, wherein the same liquid is used as the fluid in the heat pipe and as the working liquid medium of the generator.
16. The process of claim 7, wherein the thermal energy is solar energy.